Section 9

CONGENITAL CRANIOFACIAL ABNORMALITIES

9.1 Cleft lip/palate and other frequent anomalies

Cleft lip and cleft palate are two of the most common oral congenital anomalies. The rate of cleft lip and/or palate was 81.24 per 100,000 live births in 1998. Cleft lip and/or palate result from a failure of the branchial arches to complete fusion processes during embryological development. The etiology may also include environmental toxicities such as teratogens and nutritional deficiencies such as folic acid (Robert et al., 1996). Infants with cleft disorders are more susceptible to respiratory infections and will face difficulties in breathing, swallowing, and speaking (US DHHS, 2000).

Other oral and craniofacial anomalies include the Treacher Collins, DiGeorge, Pierre Robin, and Waardenburg syndromes. Treacher Collins syndrome is a defect of the first branchial arch that inflicts abnormalities in craniofacial structure and appearance such as enlarged mouth and a highly arched palate. The DiGeorge syndrome affects the parathyroid glands and the thymus, resulting in slight facial distortions such as a small mouth. The Pierre Robin syndrome results in the mandible being set much further back than the infant's forehead. The Waardenburg syndrome is a mutation of a single gene that results in several craniofacial defects (US DHHS, 2000). National data on these syndromes are not currently available.

SOURCE OF DATA

The analyses reported here are based on the 1998 Natality Data Set from the National Center for Health Statistics, Centers for Disease Control and Prevention. Since national data were not available for most of the oral and craniofacial anomalies, the analyses compare cleft lip and/or palate to other noncraniofacial congenital malformations available in the data set (i.e., hydrocephalus, microcephalus, and Down's syndrome). This database contains all births in the United States in 1998; thus, confidence intervals were not calculated.

Demographic differences

- The cleft lip and/or palate rate was highest for non-Hispanic whites followed by Hispanics and non-Hispanic blacks. The rate for non-Hispanic whites was more than twice the rate for non-Hispanic blacks (Figure 9.1.1).
- With the exception of Down's syndrome, the rate of congenital malformations was higher for infants of women with a 12th grade education or less.
- The cleft lip and/or palate rate was higher for males. The microcephalus rate was higher for females.

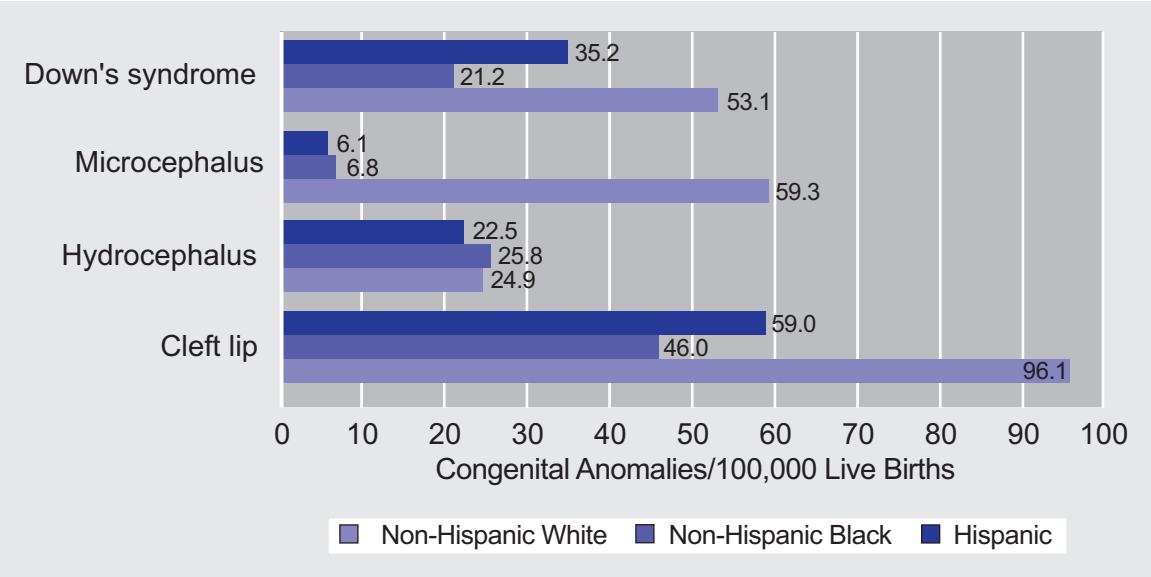
Bullets reference data that can be found in Table 9.1.1.

REFERENCE

U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

Robert E, Källén B, Harris J. The epidemiology of orofacial clefts. 1. Some general epidemiological characteristics. J Craniofac Genet Dev Biol 1996;16:234-41.

Figure 9.1.1. Prevalence of congenital malformations by race/ethnicity



Data source: 1998 Natality Data Set, National Center for Health Statistics, Centers for Disease Control and Prevention.